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MEMORANDUM FOR: DCI
DDCI

Roger Robinson sent this to Maurice today "under the table." It was not, as far as we know, officially sent to us by the NSC. Therefore, we should not let McFarlane know that we have it.

Maurice believes it makes some useful suggestions. The new SOVA paper should take care of most of the criticisms.

NSC review completed

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A CRITIQUE OF "OUTLOOK FOR THE SIBERIA-TO-WESTERN EUROPE NATURAL GAS PIPELINE"

NSC review completed

EXECUTIVE SUMMARY

The Directorate of Intelligence report on the above subject inadequately answers several critical policy questions and is deficient in its methodology and use of evidence. The key assumptions underlying the study are questionable, especially since a major premise appears to be successful circumvention of existing U.S. export control regulations and policies recently announced by the President. The study assumes that currently existing Soviet surplus pipeline capacity will continue to be available throughout the mid-1980's. The report also assumes that U.S. or French-made rotors for the G.E.-type turbines intended for the pipeline will be available in sufficient numbers despite the U.S. embargo. The Directorate of Intelligence report, in our view, underestimates the degree of difficulty and costs for the Soviets of diverting large amounts of capital, equipment, gas, and other resources to the pipeline project, nor does it provide an assessment of the reduced efficiency of equipment alternatives and foregone income stemming from the diversion process. Notably absent is an historical analysis of the project and the likelihood of it being potentially re-scaled upward to its original dimensions or more over the life of the project. Estimates of hard currency earnings, volumes of deliveries, equipment purchases, and potential dependency figures should therefore be expressed in ranges. Overall, the report largely represents a "best case" scenario in terms of the USSR's ability to deliver the gas and complete the project with only modest difficulty while characterizing the success of current U.S. policy as an "extreme case." The critique suggests several ways to assess more accurately the problems the Soviets confront in completing the project and the consequences for U.S. interests of them doing so.

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A CRITIQUE OF "OUTLOOK FOR THE SIBERIA-TO-WESTERN EUROPE NATURAL GAS PIPELINE:

Key Judgments

-- While the Soviets could deliver some additional gas through existing pipeline capacity to Western Europe by late 1984, the reasons cited by the report are not persuasive and the cost implications of the Soviets doing so are not adequately examined. The study assumes that the currently existing Soviet surplus gas pipeline capacity of 6 billion cubic meters (BCM) will still be available in late 1984. No evidence is produced that Eastern Europe or the Western Soviet Union might not require this capacity for indigenous use in the 1980's. In 1980 Eastern Europe imported an estimated 33 BCM in natural gas from the USSR. Under existing trade agreements, East European gas imports, without any offtake from the planned pipeline, are projected by CIA to rise to 42 BCM.* This could absorb virtually all the hypothetical surplus pipeline capacity by late 1984 or early 1985. How can the Soviets meet their commitments to export 5-6 BCM of additional gas to Western Europe? If, as other CIA projections have held, the Eastern Bloc will be a net energy importer by 1985, where will this energy be made up and at what cost?

-- The second key judgment seems not to take into account all the available evidence and glosses over substantial uncertainties surrounding: (1) the potential production rate of existing small (10 MW) and notoriously unreliable Soviet turbines; (2) the ability of the Soviets to reconfigure (i.e., without the G.E. 25 MW turbines) a massive project such as the Siberian pipeline within a reasonable amount of time; and (3) the damage to the Soviet economy in delaying or cannibalizing planned domestic natural gas projects in pursuit of the export project. This key judgment also is based on the assumption, made explicit in Table 3 (page 6) that all our allies will violate our export control laws. The substantial business risks to Western European companies of following this course are not treated in this context, although they are mentioned in another portion of the paper.

-- The third key judgment seems not to account for the fact that all other Soviet options delay full throughput capacity at least one to two years beyond the 1987 date mentioned. There is evidence that the Soviets are more skeptical than the report concerning their ability to domestically produce large turbines -- hence the intense and continuing Soviet pressure to obtain Western equipment. New and untested Soviet machines seem an option for which the Soviets have little enthusiasm despite Soviet press announcements (page 5).

*USSR-Western Europe: Implications of the Siberian to Europe Gas Pipeline, ER 81-10085

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-- The fourth key judgment does not appear to assess adequately the costs and risks to the Soviets of a go-it-alone approach to the pipeline. The Soviets, since the inception of the project, have indicated a strong aversion to developing indigenously an export pipeline. In the first instance, no Western financing would be available -- cheap, subsidized or otherwise -- for domestically produced equipment. All resource costs would have to be paid in advance by diverting capital from other scheduled projects. This case, which is ranked as an outside possibility by the Directorate of Intelligence, could cost the Soviets 30 BCM in deliveries to their own economy (or Eastern Europe) for at least a year or two. That could represent more gas than the export project -- valued at about $5 billion per year. If the Soviets encounter delays, and it is more likely that they will than that they will not, the cost to the Soviet economy could run from $10-20 billion. Conservative Kremlin planners might well decide to scale back their gas export ambitions rather than jeopardize ongoing and planned domestic gas pipeline projects aimed at substituting for declining oil resources, not to mention providing natural gas to planned petrochemical, fertilizer, metal and military-related production already scheduled. While the Directorate of Intelligence ranks the use of Soviet designed compressors at the least likely choice for completing the project, they rank successful violation of U.S. export controls as the most probable option. Despite public statements by governments and companies, we are aware of no hard evidence concerning the precise extent of West European willingness to absorb the potential penalties for shipping U.S. equipment in the face of our regulations.

Specific Issues and Questions

-- Table 1 in the Background section (page 1) is unclear as to whether it portrays actual contract dates or potential Soviet delivery capabilities. While the text indicates the latter, the title of Table 1 implies the former.

-- The 30-to-1 ratio between the failure rate of U.S. and Soviet industrial turbines obviously was a major factor in the Soviet choice of G.E. Frame 7 engines. Table 3 acknowledges that pipeline reliability would be "low" if the USSR used its own 16 and 25 MW turbines. Yet, the report does not provide a detailed assessment of the impact of a Soviet equipment switch on gas delivery prices and reliability. How many Soviet engines of various sized (10, 16, 25 MW) would be necessary to provide comparable reliability levels to smaller numbers of G.E.-type machines?

-- How does the conclusion on page 7 that project delays would cost the Soviets $1.5-3.0 billion square with judgment on page 8 that displaced gas would cost the Soviets $6 billion ($200 million times 30 BCM) per year?

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-- What is the significance of the fact, cited on page 8, of Soviet uncertainty in being able to provide enough compressors for currently planned domestic needs? Does this not make diversion to export lines extremely difficult? Also, how many domestically produced turbines would be required to realize the full capacity of existing export lines?

-- The report lists several difficult policy options for Moscow on page 8:

- o reduce delivery of fuels to Eastern Europe;
- o curb gas substitution for oil and coal (comment: both stagnant);
- o reduce industrial efficiency, especially in metals and petrochemicals;
- o intensify competition between sectors of the economy for scarce resources. (Comment: The military and military-related industries are presumably included.)

The Directorate of Intelligence, however, does not provide sufficient analytical attention to the implications and costs of these choices. For example, it takes time and money to switch industrial consumers of energy from gas to oil in the event priority is given to the gas export pipeline. The downstream political and economic costs of these policy options could potentially reduce or neutralize earnings from sales of natural gas to Western Europe.

-- The report describes the success of the U.S. embargo (page 12) as a "remote contingency" after pages of discussion (pages 8-10) in which the costs of violation of the embargo are clearly delineated.

Suggested Improvements

-- The Directorate of Intelligence should clearly describe the evolution of the project since its inception in order that the impact of U.S. opposition and the changes in European demand for gas can be accurately assessed. Original versus currently projected delivery volumes, price, hard currency earnings, number of participating countries, financial packages, and gas dependency percentages should all be addressed. The influence of the President's announced opposition to the project in July 1981 at the Ottawa Summit and subsequent actions should be estimated on the current scaling-down and withdrawals from the project, e.g., Belgium. What is the percentage of the scale-down from its original dimensions?

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-- There should be an evaluation for a future re-scaling upwards to the original volumes, or possibly even greater. The ranges of possible follow-on hard currency flow, equipment purchases, etc. should be fully integrated into the analysis with estimates expressed in ranges over the life of the project.

-- The report should attempt to quantify the costs of disruptions to the Soviet and East European economies if current energy development plans need to be substantially restructured in order to meet the Soviet delivery commitments to the West in the mid-80s and beyond. Considerations should include the impact of energy supply shortfalls on the political stability, solvency and general economic performance of Eastern Europe. In short, what would be the effect on the cohesiveness of the Soviet Bloc?

-- An assessment should be made of the longer term effects and costs of the uncertainties introduced by current U.S. policies (opposition) on future purchases or off-take rates by existing or potential European purchasers of Soviet gas. For example, should the sale of Western turbine and other U.S. derived equipment for the export project be blocked, how much could this affect potential purchasers of Soviet gas? We note that Belgium and the Netherlands basically lost interest in Soviet gas after failing to acquire contracts for the pipeline. What would be the economic effect of the minimal levels of Western purchases, as low as 15 BCM according to the report, on Soviet hard currency earnings and import capacity? Would the pipeline still be built to carry only 15 BCM?

-- The report should provide a more detailed estimate of the match or mismatch between hypothetical Soviet gas export capabilities and contracted delivery schedules for the period 1984-1995. The conclusion that the Soviets can pump some gas westward in late 1984 remains unpersuasive. The more critical question is whether they can meet European demands as they arise throughout the life of the contract. The report assumes that with only 60 of the imported turbines the Soviets will deliver 90% of the gas. Other experts estimate, however, that between 80-90 turbines would be required to achieve this through-put. ?

-- A technical assessment of the types of problems the Soviets are likely to encounter in reengineering the export pipeline to deal with fewer or a mix of compressors/turbines would be most useful. For example, if the main control computer is designed for a G.E. machine, many experts believe you cannot substitute a Soviet machine and expect it to function adequately. ? The layouts of Soviet and Western-designed compressor stations are different and Soviet and Western equipment also differ in drive characteristics and power and air intake requirements.

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The report fails to assess who would be responsible for designing and implementing these changes and how the price of the gas might be affected. Would redesigning the project change its economic attractiveness from either the Soviets and West Europeans?

-- The Directorate of Intelligence should address some of the problems in using Alsthom rotors, including its financial impact on the turbine producers, such as John Brown, Nuovo Pignone, and AEG. We understand that they are not welcoming that prospect, since AA's prices are so much higher than G.E.'s. The description of the financial impact on John Brown appears inaccurate and based on figures provided by the management of John Brown.

-- The short section on Soviet "Political Objectives" should be strengthened. The geopolitical, energy and economic security advantages to Moscow need to be spelled out more precisely including the Soviets' use of trade incentives to neutralize or roll-back Western strategic interests during a period of rapid Soviet military buildup and the current crisis in Eastern Europe and Afghanistan. The impact of Soviet gas dependencies, particularly in certain German states (Bavaria - 90%) and their impact on alliance cohesion and resolve should be at least mentioned in this co-nection.

-- The USSR's record of manipulating the energy supplies of its adversaries or clients should be related to our Western energy security concerns, i.e., PRC, Yugoslavia (1980-81), Albania, etc.

-- The USSR's record of flawed technical reliability as a supplier should also be assessed, i.e., 1981 -- 30-40% cut-back to Austria, problems with Orenburg deliveries to Europe, etc.

-- An assessment should be made of the potential impact of North Sea gas and the development of other non-Soviet sources to diminish the marketability of Soviet gas to Western Europe.

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